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AP-2827

Docket No.: 108298531US
Date: June 13, 2002

In re application of: **David J. Corisis and Aaron M. Schoenfeld**
Application No.: **09/644,476** Confirmation No.: **2634**
Filed: **August 23, 2000**
For: **METHOD AND APPARATUS FOR DECOUPLING CONDUCTIVE PORTIONS OF A MICROELECTRONIC DEVICE PACKAGE**

COMMISSIONER FOR PATENTS
WASHINGTON DC 20231

Sir:

Transmitted herewith is a Response Under 37 C.F.R. § 1.111 in the above-identified application.

- ☐ Applicant claims small entity status. See 37 C.F.R. 1.27.
☐ Applicant has previously claimed small entity status. See 37 CFR 1.27.
☐ A Petition for an Extension of Time for month is enclosed.
☐ A General Authorization Under 37 C.F.R. § 1.136(a)(3) is enclosed.
☒ No additional claim fee is required.
☒ The fee has been calculated as shown.

	(Col. 1)		(Col. 2)	(Col. 3)
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST PREV. PAID FOR	PRESENT EXTRA
TOTAL	* 39	-	** 60	0
IND.	* 5	-	*** 7	0
[] FIRST PRESENTATION OF MULT. DEP. CLAIMS				
EXTENSION OF TIME FEE				
INFORMATION DISCLOSURE STATEMENT FEE				
TOTAL ADDITIONAL FEE				

SMALL ENTITY	
RATE	ADDITIONAL FEE
x 9	\$ 0
x 42	\$ 0
+140	\$
	\$
	\$ 0

OR

OR

TOTAL

OTHER THAN A SMALL ENTITY	
RATE	ADDITIONAL FEE
x 18	\$ 0
x 84	\$ 0
+280	\$ 0
	\$ 0
	\$ 180
	\$ 180

* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found from the equivalent box in Col. 1 of a prior amendment or the number of claims originally filed.

- ☐ Please charge my Deposit Account No. 50-0665 in the amount of \$_. A duplicate copy of this sheet is enclosed.
☒ A check in the amount of \$ 180 is attached.
☒ The Commissioner is hereby authorized to charge payment of the following additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-0665. A duplicate copy of this sheet is enclosed.
☒ Any filing fees under 37 CFR 1.16 for the presentation of extra claims.
☒ Any patent application processing fees under 37 CFR 1.17.

Respectfully submitted,
PERKINS COIE LLP

John M. Wechkin
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : David J. Corisis and Aaron M. Schoenfeld ✓
Application No. : 09/644,476 ✓ Confirmation No.: 2634
Filed : August 23, 2000
For : METHOD AND APPARATUS FOR DECOUPLING
CONDUCTIVE PORTIONS OF A MICROELECTRONIC
DEVICE PACKAGE

Examiner : David E. Graybill
Art Unit : 2827
Docket No. : 108298531US
Date : June 13, 2002

Commissioner for Patents
Washington, DC 20231

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RESPONSE UNDER 37 C.F.R. § 1.111

Dear Commissioner:

This paper responds to the first Office Action in this patent application mailed March 13, 2002. In keeping with 37 C.F.R. § 1.121, this paper includes a clean version of the amended specification paragraph and the entire set of pending claims upon entry of this amendment. An appendix is attached showing the marked-up versions of the specification paragraph and claims amended in the present response. Please amend the application as follows and reconsider the application in light of the following remarks.

In the Specification:

Please amend the paragraph beginning at page 5, line 18 and ending at line 29, as follows:

174 One feature of an embodiment of the device package 120 and the conductive member 130 described above with reference to Figures 2-4 is that the dielectric material 160 adjacent to the conductive portions 131 can be selected to control capacitive coupling between neighboring conductive portions 131. For example, in one embodiment, the dielectric material 160 can include Teflon™ (polytetrafluoroethylene) and can have a dielectric constant of from approximately 1.0 to approximately 2.0. Accordingly, the likelihood for capacitive coupling between neighboring conductive portions 131 can be reduced when compared to conventional arrangements (such as the arrangement described above with reference to Figure 1) that have relatively high dielectric encapsulating materials positioned between adjacent leadfingers. In other embodiments, the dielectric material 160 can have a dielectric constant higher than 2.0, but less than the dielectric constant of conventional encapsulating materials, which is approximately 3.5 and above.

In the Claims:

Please cancel claim 38, amend claims 12, 16, 20 and 29 as follows, and add new claim 61.

- 42 1. A method for packaging a microelectronic substrate, comprising:
- positioning a conductive member at least proximate to the microelectronic substrate, the conductive member having first and second neighboring conductive portions with at least part of the first conductive portion separated from the neighboring second conductive portion to define an intermediate region between the conductive portions;
 - electrically coupling the first conductive portion of the conductive member to a first coupling site of the microelectronic substrate and electrically coupling the second conductive portion of the conductive member to a second coupling site of the microelectronic substrate; and
 - providing a dielectric material in the intermediate region between the conductive portions, the dielectric material having a dielectric constant less than about 3.5.

2. The method of claim 1 wherein the conductive portions each have a first surface adjacent to the microelectronic substrate, a second surface facing opposite the first surface, and a third surface between the first and second surfaces, and wherein the method further comprises providing the dielectric material adjacent to the third surfaces of the conductive portions.

3. The method of claim 1 wherein the conductive portions each have a first surface adjacent to the microelectronic substrate, a second surface facing opposite the first surface, and a third surface between the first and second surfaces, and wherein the method further comprises disposing the dielectric material on the second surfaces of the conductive portions and applying a force normal to the second surface to displace at least some of the dielectric material into the intermediate region between the conductive portions adjacent to the third surfaces of the conductive portions.

4. The method of claim 1 wherein positioning the conductive member includes positioning a leadframe adjacent to the microelectronic substrate, and wherein the method further comprises providing the dielectric material between neighboring leadfingers of the leadframe.

5. The method of claim 1 wherein positioning the conductive member includes positioning adjacent to the microelectronic substrate a printed circuit board having conductive traces, and wherein the method further comprises providing the dielectric material between the conductive traces of the printed circuit board.

6. The method of claim 1, further comprising adhering a layer of the dielectric material to the conductive member.

7. The method of claim 1, further comprising:
disposing the dielectric material on the conductive member; and
applying heat and/or pressure to the dielectric material after disposing the dielectric material on the conductive member.

8. The method of claim 1, further comprising disposing the dielectric material on the conductive member in a liquid or vapor phase.

9. The method of claim 1 wherein electrically coupling the conductive portions of the conductive member to coupling sites of the microelectronic substrate includes attaching wire bonds between the conductive portions of the conductive member and bond pads of the microelectronic substrate.

10. The method of claim 1, further comprising disposing an encapsulating material over at least part of the conductive member and the microelectronic substrate.

11. The method of claim 1, further comprising selecting the dielectric constant of the dielectric material to be from about 1.0 to about 2.0.

12. (Amended) The method of claim 1, further comprising selecting the dielectric material to include polytetrafluoroethylene.

13. A method for processing a circuit board for coupling to a microelectronic substrate, comprising:

providing a circuit board having a first conductive trace with a portion spaced apart from a corresponding portion of a second conductive trace to define an intermediate region between the first and second conductive traces; and

disposing in the intermediate region between the conductive traces a dielectric material having a dielectric constant less than approximately 3.5.

14. The method of claim 13, further comprising selecting the dielectric material to have a dielectric constant of from about 1.0 to about 2.0.

15. The method of claim 13, further comprising selecting the dielectric material to include a gas.

16. (Amended) The method of claim 13, further comprising selecting the dielectric material to include argon and/or helium.

17. The method of claim 13 wherein the conductive traces each have a first surface, a second surface facing opposite the first surface, and a third surface between the first and second surfaces with the third surface of the first conductive trace facing the third surface of the second conductive trace, and wherein the method further comprises disposing the dielectric material on the second surfaces of the conductive traces and applying a force normal to the second surfaces to displace at least some of the dielectric material into the intermediate region between the conductive traces adjacent to the third surfaces of the conductive traces.

18. The method of claim 13 wherein disposing the dielectric material includes adhering a layer of the dielectric material to the conductive member.

19. The method of claim 13, further comprising applying heat and/or pressure to the dielectric material after disposing the dielectric material on the conductive traces.

20. (Amended) The method of claim 13 wherein disposing the dielectric material includes disposing the dielectric material in liquid or vapor phase.

21. A method for processing a leadframe for coupling to microelectronic substrates, comprising:

providing a leadframe having first and second connected leadfingers, at least a portion of the first leadfinger being separated from a neighboring portion of the second leadfinger, each leadfinger having a first surface, a second surface opposite the first surface, and a third surface between the first and second surfaces, the second surface having a bond site for receiving wire bonds; and

applying to the leadframe a dielectric material having a dielectric constant of less than about 3.5, the dielectric material being positioned adjacent to the third surfaces of

the leadfingers and/or proximate to the third surfaces to extend between the third surfaces of the first and second leadfingers when the leadframe is connected to a microelectronic substrate.

22. The method of claim 21 wherein disposing the dielectric material includes disposing a pliable dielectric material on at least one of the first and second surfaces adjacent to the third surface.

23. The method of claim 21 wherein disposing the dielectric material includes disposing a first dielectric material on one of the surfaces of the leadfingers, further comprising disposing a second dielectric material different than the first dielectric material on another surface of the leadfingers.

24. The method of claim 21 wherein disposing the dielectric material includes disposing a pliable dielectric material on at least one of the first and second surfaces adjacent to the third surface, and wherein the method further comprises applying a normal force to the at least one of the first and second surfaces to displace a portion of the dielectric material to a point between the third surfaces of the first and second leadfingers.

25. The method of claim 21, further comprising:
attaching a wire bond to the first leadfinger before disposing the dielectric material; and
disposing the dielectric material on the wire bond.

26. The method of claim 21, further comprising completely filling in a region between the third surface of the first leadfinger and the third surface of the neighboring second leadfinger.

27. The method of claim 21 wherein disposing the dielectric material includes dipping the leadframe into a volume of the dielectric material.

28. The method of claim 21 wherein disposing the dielectric material includes disposing the dielectric material in liquid or vapor phase.

29. (Amended) A method for packaging a microelectronic substrate, comprising:

positioning leadfingers of a leadframe adjacent to corresponding bond sites of the microelectronic substrate;

electrically coupling the leadfingers to the bond sites;

disposing a first dielectric material adjacent to first surfaces of the leadfingers and the microelectronic substrate;

disposing a second dielectric material adjacent to second surfaces of the leadfingers facing opposite the first surfaces; and

introducing at least some of the first and/or second dielectric material into a gap between adjacent leadfingers by biasing the leadframe toward the microelectronic substrate and/or applying heat to at least one of the dielectric materials wherein at least one of the first and second the dielectric materials has a dielectric constant less than about 3.5.

30. The method of claim 29 wherein biasing the leadframe includes applying a normal force to the at least one of the first and second surfaces of the leadfingers.

31. The method of claim 29 wherein disposing the first dielectric material includes adhering a layer of the first dielectric material adjacent to the first surfaces of the leadfingers.

32. The method of claim 29 wherein disposing the first dielectric material includes applying a layer of adhesive to the first dielectric material and adhering the adhesive layer to the microelectronic substrate.

33. The method of claim 29 wherein disposing the first dielectric material includes depositing particles of the first dielectric material to form a layer of the first dielectric material.

34. The method of claim 29, further comprising:
removing a portion of the second dielectric material from the second surface of each leadfinger to expose a portion of the second surface of each leadfinger; and
attaching wire bonds between the exposed portions of the leadfingers and the bond pads.

35. The method of claim 29, further comprising:
leaving portions of the second surfaces of the leadfingers uncovered by the second dielectric material; and
attaching wire bonds between the bond sites of the microelectronic substrate and the uncovered portions of the leadfingers.

36. The method of claim 29 further comprising selecting the first and second dielectric materials to have approximately the same dielectric constant.

37. The method of claim 29, further comprising:
disposing an encapsulating material adjacent to the leadframe and the microelectronic substrate; and
selecting at least one of the first and second dielectric materials to have a dielectric constant less than a dielectric constant of the encapsulating material.

38. (Cancelled)

39. The method of claim 29, further comprising selecting the first dielectric material to have a dielectric constant of from about 1.0 and to about 2.0.

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Cancelled)

50. (Cancelled)

51. (Cancelled)

52. (Cancelled)

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (New) A method for packaging a microelectronic substrate, comprising:

positioning leadfingers of a leadframe adjacent to corresponding bond sites of the microelectronic substrate;

disposing a first dielectric material adjacent to first surfaces of the leadfingers and the microelectronic substrate;

43 disposing a second dielectric material adjacent to second surfaces of the leadfingers facing opposite the first surfaces;

removing a portion of the second dielectric material from the second surface of each leadfinger to expose a portion of the second surface of each leadfinger;

electrically coupling the leadfingers to the bond sites by attaching wire bonds between the exposed portions of the leadfingers and the bond pads; and

introducing at least some of the first and/or second dielectric material into a gap between adjacent leadfingers by biasing the leadframe toward the microelectronic substrate and/or applying heat to at least one of the dielectric materials.

REMARKS

Claims 1-39 were pending in this application when the present Office Action was mailed. Claim 38 has been cancelled, claims 12, 16, 20 and 29 have been amended, and claim 61 is newly added. Accordingly, claims 1-37, 39 and 61 are now pending.

In the Office Action mailed March 31, 2002, claims 1-33 and 35-39 were rejected and claim 34 was indicated to be allowable. More specifically, the status of the application in light of this Office Action is as follows:

(A) Claims 1-28, 38 and 39 stand rejected for a variety of reasons under 35 U.S.C. § 112;

(B) Claims 1-4, 6-10, 13, 17-26, 28-33, 35 and 38 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,086,018 to Conru ("Conru");

(C) Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru;

(D) Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in combination with U.S. Patent No. 6,335,225 to Doan ("Doan");

(E) Claims 11, 14, 36, 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in view of U.S. Patent No. 5,932,345 to Furutani ("Furutani"); and

(F) Claim 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in combination with U.S. Patent No. 6,346,152 to Moden ("Moden").

A. Response to the Section 112 Rejections

Claims 1-28 and 39 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was allegedly not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention. Specifically, the composition of the materials providing the claimed dielectric constant range were allegedly not identified.

The specification provides support for materials having a dielectric constant of less than 3.5, and for materials having a dielectric constant of from approximately 1.0 to approximately 2.0. For example, the specification at page 5, line 23, indicates that Teflon™ is an example of a material having a dielectric constant within the claimed range. The specification has been amended at page 5, line 23 to clarify that the chemical composition of Teflon™ is polytetrafluoroethylene. The composition of Teflon™ was well understood by those of ordinary skill in the relevant art at the time the present application was filed, as indicated by the dictionary definition of Teflon™ (see item AM of the enclosed Information Disclosure Statement). Accordingly, the addition of the term "polytetrafluoroethylene" to the specification at page 5, line 23 does not represent the addition of new matter to the specification. Furthermore, the specification both as originally drafted and as presently amended, reasonably conveys to one of ordinary skill in the relevant art the composition of

materials having the claimed value or values of dielectric constants. Therefore, the Section 112, first paragraph rejection of claims 1-28 and 39 on this basis should be withdrawn.

Claims 1-28 and 39 were also rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to enable one skilled in the relevant art to make and/or use the invention. The basis for this rejection is essentially the same as that described above, namely that the composition of the materials having the claimed value or values of dielectric constant were allegedly not identified. For the reasons discussed above, the composition was identified and the Section 112 rejection of these claims on this second basis should be withdrawn.

Claims 1-28, 38 and 39 were also rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. In particular, claims 1, 11, 13, 14, 21, 38 and 39 were alleged to improperly recite dielectric constants without scientific units. As indicated by item AN of the enclosed IDS, the dielectric constant is a dimensionless ratio of the permittivity of a substance to the permittivity of free space. Accordingly, the dielectric constant has no units and the Section 112 rejection of claims 1-28, 38 and 39 on this basis should be withdrawn.

Claim 12 was rejected as containing the trademark "Teflon." Claim 12 has been amended to replace the term "Teflon" with the term "polytetrafluoroethylene," which, as discussed above, is an equivalent term. Accordingly, the Section 112, second paragraph rejection of claim 12 should be withdrawn. Furthermore, this amendment is made for purposes of clarification only and does not narrow the scope of the claim.

Claim 15 was rejected because the limitation "selecting the dielectric material to include a gas" was allegedly unclear. Applicants wish to clarify that this limitation is intended to convey that the method includes selecting a dielectric material that includes a gas. Applicants contend that claim 15, as initially drafted, clearly conveys the meaning of this limitation. However, if the Examiner is aware of suggested language that would further clarify this meaning, the undersigned attorney is willing to consider the addition of such language.

Claim 16 has been amended to eliminate the term "gas" and accordingly for this reason and for the reasons discussed above with reference to claim 15, the Section 112

rejection of claim 16 should be withdrawn. Furthermore, this amendment is made for purposes of clarification only and does not narrow the scope of the claim.

B. Response to the Section 102 Rejections

Claims 1-4, 6-10, 13, 17-26, 28-33, 35 and 38 were rejected under 35 U.S.C. § 102(b) as being anticipated by Conru. For the reasons discussed below, the applied reference does not contain every element recited in these claims and is accordingly improper.

1. Claim 1 Includes Disposing a Material With a Dielectric Constant Less Than 3.5 Between Conductive Portions of a Conductive Member Coupled to a Microelectronic Substrate

Claim 1 is directed to a method for packaging a microelectronic substrate and includes positioning a conductive member at least proximate to the microelectronic substrate, with the conductive member having first and second neighboring conductive portions and with at least part of the first conductive portion separated from the neighboring second conductive portion to define an intermediate region between the conductive portions. The method further includes electrically coupling the first conductive portion to a first coupling site of the microelectronic substrate and electrically coupling the second conductive portion to a second coupling site of the microelectronic substrate. A dielectric material is then provided in the intermediate region between the conductive portions, with the dielectric material having a dielectric constant less than about 3.5. An advantage of this method is that the low dielectric constant material between the conductive portions can reduce potentially undesirable electrical communication between these portions.

2. Conru Discloses a Leadframe and an Adhesive

Conru discloses an arrangement that includes a leadframe 10 having leadframe conductors 14 positioned over a semiconductor chip 12. The leadframe conductors 14 are connected to pads 15 on the semiconductor chip via gold wires 16. An adhesive layer 17 is applied to a polyimide film 18, such as a "Kapton" film and is disposed between neighboring leadframe conductors 14.

3. Conru Fails to Disclose Each and Every Element of Claim 1

The MPEP at § 2131 provides:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Contrary to the argument made in the Office Action that all elements are disclosed by Conru, Conru fails to disclose "providing a dielectric material in the intermediate region between the conductive portions, the dielectric material having a dielectric constant less than about 3.5." For example, assuming for the sake of argument that Conru's adhesive layer 17 corresponds in part to the dielectric material of claim 1, Conru discloses that this layer can include Pyralux, which has a dielectric constant of 3.5-3.6 (see item AO of the enclosed IDS). Accordingly, Conru fails to disclose that the adhesive layer 17 has a dielectric constant less than about 3.5. Therefore, the Section 102 rejection of claim 1 is unsupported by the applied reference and should be withdrawn.

Claims 2-4 and 6-10 depend from claim 1. Accordingly, these claims include, *inter alia*, the features described above with reference to claim 1. Therefore, the Section 102 rejection of these claims should be withdrawn for reasons discussed above and for the additional features of these claims.

Claim 13 includes many of the features described above with reference to claim 1 and in particular, includes "disposing in the intermediate region between the conductive traces a dielectric material having a dielectric constant less than approximately 3.5." For the reasons discussed above and for the additional features of claim 13, the Section 102 rejection of claim 13 is unsupported by Conru and should be withdrawn.

Claims 17-19 and claim 20 (as amended) depend from claim 13. Accordingly, the Section 102 rejection of these claims should be withdrawn for the reasons discussed above and for the additional features of these dependent claims.

Claim 21 includes, *inter alia*, features generally similar to those described above with reference to claim 1. Accordingly, for the reasons discussed above and for the

additional features of claim 21, the Section 102 rejection of claim 21 is unsupported by Conru and should be withdrawn.

Claims 22-26 and 28, which depend from claim 21, include, *inter alia*, the features of claim 21. Accordingly, for the reasons discussed above and for the additional features of these dependent claims, the Section 102 rejection of these claims should be withdrawn.

Claim 29, as amended, includes many of the features described above with reference to claim 1. Accordingly, for the reasons discussed above and for the additional features of the claim, the Section 102 rejection of claim 29 is unsupported by Conru.

Claims 30-33 and 35, which depend from claim 29, include, *inter alia*, the features described above with reference to claim 29. Therefore, the Section 102 rejection of these claims is unsupported by Conru for the reasons discussed above and for the additional features of these claims. Accordingly, the Section 102 rejection of these claims should be withdrawn.

Claim 38 has been cancelled from the application and accordingly the Section 102 rejection of this claim is now moot.

C. Response to the Section 103 Rejection of Claims 15 and 16

Claims 15 and 16 were rejected as being unpatentable over Conru under 35 U.S.C. § 103. As required by the MPEP at § 2142, a *prima facie* case of obviousness under Section 103 requires, *inter alia*, motivation for modifying or combining the applied references. Claims 15 and 16, which depend from claim 13, include, *inter alia*, the features described above with reference to claim 13. As discussed above, Conru fails to disclose at least one limitation of claim 13 and claims 15 and 16. Furthermore, Conru fails to provide any motivation for modifying his device to include either the features of claim 13 or the additional features recited in claims 15 and 16. In fact, Conru appears not to have recognized the problems addressed by the present invention. For example, Conru fails to identify any drawbacks with the prior art which would require or benefit from the features included in claims 15 and 16. Accordingly, the Section 103 rejection of these claims should be withdrawn.

D. Response to the Section 103 Rejection Based on Conru and Doan

Claims 1-4, 6-10, 13, 17-26, 28-33, 35 and 38 were rejected under Section 103 as being unpatentable over Conru in combination with Doan. Claim 38 has been cancelled and accordingly, the Section 103 rejection of claim 38 is now moot. Doan qualifies as prior art to the present application only under 35 U.S.C. § 102(e). As stated in 35 U.S.C. § 103(c), "subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of Section 102 of this title, shall not preclude patentability under this Section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." Both the present application and the Doan reference have been assigned to Micron Technology, Inc., and were subject to an obligation of assignment to Micron Technology, Inc. at the time the present invention was made. Accordingly, the Section 103 rejection of claims 1-4, 6-10, 13, 17-26, 28-33 and 35 on the basis of Conru and Doan should be withdrawn.

E. Response to the Section 103 Rejection of Claims 11, 14, 36, 37 and 39

Claims 11, 14, 36, 37 and 39 were rejected under Section 103 as being unpatentable over Conru or in the alternative, Conru in combination with Furutani. Each of these claims includes, *inter alia*, disposing into a gap between adjacent conductive portions of a conductive member a dielectric material having a dielectric constant of from about 1.0 to about 2.0. As discussed above, Conru fails to disclose or suggest a material having a dielectric constant within this range, and furthermore, fails to recognize the potential drawback of having materials with dielectric constants outside this range disposed in the gap between adjacent leadfingers. Accordingly, Conru fails to provide any motivation or suggestion to modify his device to include dielectric materials having dielectric constants within the claimed range.

Furutani, while disclosing dielectric materials having a dielectric constant of 3 or less, discloses the use of these materials as a laminate film 10 around a wire 12 (see Figures 1-3 of Furutani) and an adhesive agent layer 48 composed of a specific thermoplastic polyimide resin disposed adjacent to a bonding wire (Figures 12 and 15-18 of Furutani). However, Furutani fails to disclose or suggest placing such a material between

adjacent leadfingers of a leadframe and furthermore, fails to provide any motivation for one of ordinary skill in the art to modify his device to include this feature. Because such motivation has not been identified in the Office Action, a *prima facie* case of obviousness under Section 103 has not been made with respect to the foregoing claims, and accordingly, the Section 103 rejection of these claims should be withdrawn.

F. Response to the Section 103 Rejection of Claim 27

Claim 27 was rejected under Section 103 as being unpatentable over Conru inn combination with Moden. Moden qualifies as prior art to the present application only under 35 U.S.C. § 102(e). As stated in 35 U.S.C. § 103(c), "subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of Section 102 of this title, shall not preclude patentability under this Section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." Both the present application and the Moden reference have been assigned to Micron Technology, Inc., and were subject to an obligation of assignment to Micron Technology, Inc. at the time the present invention was made. Accordingly, the Section 103 rejection of claim 27 on the basis of Conru and Moden should be withdrawn.

G. New Claim 61 is Allowable Over the Applied References

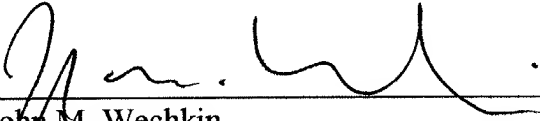
Claim 34 was indicated to be allowed. New claim 61 corresponds to claim 34, rewritten in independent form. Accordingly, new claim 61 is in condition for allowance.

H. Conclusion

In light of the foregoing amendments and remarks, all of the pending claims are in condition for allowance. Applicants, therefore, request reconsideration of the application and an allowance of all pending claims. If the Examiner wishes to discuss the above-noted distinctions between the claims and the cited references, or any other distinctions, the Examiner is encouraged to contact John Wechkin by telephone. Additionally, if the Examiner notices any informalities in the claims, he is also encouraged to contact John Wechkin to expediently correct any such informalities.

Respectfully submitted,

Perkins Coie LLP



John M. Wechkin
Registration No. 42,216

JMW:ri

Enclosures:

Postcard

PTO-1083 (+ copy)

Appendix (Marked-up version of specification)

Appendix (Marked-up version of claims)

Information Disclosure Statement

Form PTO/SB/08A

Cited References (4)

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